



AMERICAN ASTRONOMICAL SOCIETY DOCKET FILE COPY ORIGINAL

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February 8, 1993

Ms. Donna Searcy  
Secretary  
Federal Communications Commission  
1919 M Street, N.W.  
Washington, DC 20554

In the Matter of

Amendment of the Commission's Rules with )  
Regard to the Establishment of a Radio )  
Astronomy Communications Zone in Puerto Rico )

RM No. 8165

Dear Ms. Searcy:

As President of the American Astronomical Society ("AAS"), I would like to offer my comments on the above matter. The AAS is the major professional astronomy society in North America. Its membership includes 5000 professionals with principal interests in astronomy and astrophysics.

The Arecibo Observatory is one of only three U.S. National Observatories and is a formidable asset for the astronomical community. Arecibo is by far the most sensitive radio telescope in the world. The results from pulsar research and the discovery of possible planetary bodies in other star systems, as well as the discovery and mapping with the Arecibo planetary radar system of nearby asteroids and comets have been highly publicized in the press. The phenomenal new understanding of the large scale structure (over hundreds of millions of light years) of the universe depends critically on the neutral hydrogen observations made at Arecibo.

The Arecibo telescope is used by hundreds of American and foreign investigators each year. It is frequently linked for long baseline interferometry experiments with national and international telescopes in a giant network.

The Gregorian Upgrade has recently been funded by the National Science Foundation and the National Aeronautics and Space Administration. This Upgrade will increase the sensitivity of the telescope by as much as fifty percent and will increase its frequency agility by opening up parts of the spectrum that were previously accessible. The Commission, as a guardian of the use of the radio spectrum, can play a crucial role in

preserving this unique research facility. The Commission will clearly be acting in the public interest if it acts to protect the Arecibo Observatory as a major scientific instrument.

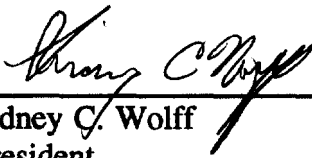
New technologies have made the available astronomical instrumentation more sensitive. With the increase in performance, however, the sensitivity to interference has also increased. Furthermore, the environment around the observatory has become less suitable for astronomy. At one time the Arecibo Observatory was located in a very radio quiet location, but that is no longer true. The observations of the Observatory are being threatened by various radio services, which have been developed to serve the densely populated island of Puerto Rico.

The proposed Communication Zone for the island of Puerto Rico will serve as an early warning when new services propose to move into the area. A better name may be a "Coordination Zone." The Communication Zone will provide a mechanism to help the Observatory evaluate the effects of new services in a timely manner and to alert the Commission about potential problems. The establishment of this Zone provides an effective administrative mechanism for the Observatory to exercise its right to comment on new applications before the Commission.

The Zone will also provide a framework of cooperation and advance communication between the Observatory and the other users. Although Puerto Rico will never be a radio quiet place, the proposed Communication Zone will help to reduce the number of future conflicts, such as those with nearby tv stations, and will help the Observatory to coexist peacefully with the other users of radio spectrum.

On behalf of the American Astronomical society, I strongly urge the Commission to establish the proposed Communication Zone for the benefit of Arecibo Observatory. This Communication Zone will help secure the future of a unique and powerful scientific instrument.

Respectfully submitted,

  
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Sidney C. Wolff  
President